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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,521	11/19/2003	Yutaka Sato	520.43271X00	4687

24956 7590 12/29/2006  
MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.  
1800 DIAGONAL ROAD  
SUITE 370  
ALEXANDRIA, VA 22314

EXAMINER
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SYED, FARHAN M

ART UNIT	PAPER NUMBER
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2165

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/29/2006	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/715,521	SATO ET AL.	
	Examiner	Art Unit	
	Farhan M. Syed	2165	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 October 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-7,9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,9 and 10 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

1. Claims 1, 2, 4-7, 9, and 10 are pending.

***Response to Remarks***

2. In the Applicant's remarks, see page, filed 02 October 2006, with respect to claims 3 and 8, the Examiner acknowledges the cancellation of claims 3 and 8.

***Specification/Abstract***

3. Applicant's arguments, see pages 12-13, filed 02 October 2006, with respect to the Abstract have been fully considered and are persuasive. The objection of the Abstract in the non-final office action dated 01 May 2006 has been withdrawn.

***Drawing***

4. Applicant's arguments, see pages 12-13, filed 02 October 2006, with respect to the drawings have been fully considered and are persuasive. The objection of the drawings in the non-final office action dated 01 May 2006 has been withdrawn.

***Claim Rejections - 35 USC § 112***

5. Applicant's arguments, see pages 12-13, filed 02 October 2006, with respect to claims 5 and 9 have been fully considered and are persuasive. The rejection of claims 5 and 9 in the non-final office action dated 01 May 2006 has been withdrawn.

***Response to Argument***

6. Applicant's arguments filed 02 October 2006 with respect to claims 1, 2, 4-7, 9 and 10 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Objections***

7. Claim 4 is objected to because of the following informalities: Claim 4 depends upon claim 3, which has been cancelled by the Applicant and therefore is disconnected with an independent claim. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 2, 4-7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al (U.S. Patent Pub. 2003/007681 A1) in view of a non-Patent Literature titled "Efficient Data Allocation over Multiple Channels as Broadcast Servers" by Yee et al (IEEE Transactions on Computers, Vol 51, No. 10, October 2002, pages 1231-1236 and known hereinafter as Yee).

As per claims 1, 7, and 10, Enomoto teaches an information transmission system is characterized by two transmission lines and a plurality of transmission terminals that are connected thereto to transmit information to each other (i.e. In Figure 1 clearly illustrates that two transmission lines are R11 and R12 and a plurality of transmission terminals are client groups C1-C4).(Figure 1), wherein each of said transmission terminals is built up to receive information from a sender through said two transmission lines and is equipped with a relaying means which (i.e. *"The first client group C1 is a set of one or more clients and has a function for carrying out transmission/reception of frames between the first congestion control node A1 and the first client group C1. Each of the second through the fourth client groups C2 to C4 is similar in structure and operation to the first client group C1. That is, the second client group C2 has a function for carrying out transmission/reception of frames between the second congestion control node A2 and the second*

*client group C2.*" The preceding text clearly indicates that transmission terminals, which are client groups C1-C4 receives information from a sender, which is illustrated based on the relationship of C1 and C2, where C1 is the sender of information and C2 is the receiver of information. In this illustration, information is contained in frames.)(Page 8, paragraphs 106-107), when receiving said information from only one of said transmission lines, sends out the received information to the other

transmission line (i.e. *"The ring-shaped network R1 comprises a first one-way ring R11 turning around or flowing in a clockwise direction and a second one-way ring R12 turning around or flowing in a counterclockwise direction in the opposite direction to the first one-way ring R11. The first and the second one-way rings R11 and R12 are collectively called the ring-shaped network R1. The ring-shaped network R1 has a function for transferring frames sent from one of the first through the fourth congestion control nodes A1 to A4 to a different one of the first through the fourth congestion control nodes A1 to A4."*) The preceding text clearly indicates that a ring shape network R1 and R2 are two transmission lines where information is sent, where R1 sends information in one direction and R2 sends information in another direction.)(Page 8, paragraph 104).

Enomoto does not explicitly teach a system that all transmissions are conducted over both of said two transmission lines.

Yee teaches a system that all transmissions are conducted over both of said two transmission lines (i.e. *"Furthermore, there are some definite advantages that accrue from multichannel broadcast. The use of multiple channels allows better fault tolerance, configurability, and scalability. For examiner, servers with multiple channel ability can assume the workload of other crashed servers in the same cell or broadcast over another channel in the same cell."*) "Example. Consider the problem of allocating the set of  $N=6$  items from the example in Section 3 to  $K=3$  channels. Using GREEDY algorithm, the first split occurs between item 2 and 3 and the second occurs between items 1 and 2. These two splits reduce the average expected delay from 3 ticks to 0.95 ticks. See Fig. 2" The preceding text clearly indicates that multiple channels are examples of multiple transmission lines, where

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the transmission of data is used over multiple channels (i.e. multiple transmission lines).)(Page 1231, section 1; page 1233, section 4.2).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Enomoto with the teachings of Yee to include a system that all transmissions are conducted over both of said two transmission lines with the motivation to allocate data to these channels in a way that reduces the average expected delay of a request (Yee, section 1).

As per claims 2, 4, and 6 Enomoto teaches an information transmission system wherein said information transmission system is equipped with a means which preferentially relays information to a relaying means of a transmission terminal close to said sender (i.e. *"The ring-shaped network R1 has a function for transferring frames sent from one of the first through the fourth congestion control nodes A1 to A4 to a different one of the first through the fourth congestion control nodes A1 to A4."* *"The routing table A12 has a function for memorizing a cost up to each destination congestion control node and an ID of a sending one-way ring. The ID of the sending one-way ring indicates either the first one-way ring R11 or the second one-way ring R12. Information of the routing table A12 is used by the transfer direction determination part A11, and the first and the second congestion control parts A13 and A14. At any rate, the routing table A12 designates a transfer path for destination."* The preceding text clearly indicates that a routing table determines the preferentiality of relay information and the congestion control nodes A1-A4 are the relaying means of a transmission terminal. In addition, paragraph 125 illustrates that the preferentially relay information is sent close to the sender, where C1 is the sender and C4 or C2 are the recipient of the relay information.)(Page 8, paragraph 104; page 9, paragraphs 124-125).

As per claim 5, Enomoto teaches an information transmission system according to claim 1, wherein each of said transmission terminals is equipped with a means to send information from said terminal to the other transmission terminal, wherein each of said transmission terminals is equipped with means to send information from said terminal to the other transmission terminal over one of said two transmission lines if determined to be necessary (i.e. *"The two-way link L100 is a two-way link for linking the first client group C1 with the first congestion control node A1 and for linking the first congestion control node A1 with the first client group C1. The first one-way link L101 is a one-way link for linking the second congestion control node A2 with the first congestion control node A1 and belongs to the first one-way ring R11. The third one-way link L103 is a one-way link for linking the fourth congestion control node A4 with the first congestion control node A1 and belongs to the second one-way ring R12."* The preceding text clearly indicates that the transmission terminal, which is C1 is equipped with the means to use two transmission lines, which are R11 and R11, respectively. Both lines are used to send information from C1 to the other transmission terminal, which may be C2 or C4.)(Page 9, paragraphs 117-120).

As per claim 9, Enomoto teaches an information transmission system wherein each of said railway vehicles has two of said transmission terminals each of which has a means to respectively send information over said transmission lines when said transmission terminal sends information from the vehicle having the transmission terminal to the other vehicle (i.e. *"The two-way link L100 is a two-way link for linking the first client group C1 with the first congestion control node A1 and for linking the first congestion control node A1 with the first client group C1. The first one-way link L101 is a one-way link for linking the second congestion control node A2 with the first congestion control node A1 and belongs to the first one-way ring R11. The third one-way link L103 is a one-way link for linking the fourth congestion control node A4 with the first*



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*congestion control node A1 and belongs to the second one-way ring R12."* The preceding text clearly indicates that the transmission terminal, which is C1 is equipped with the means to use two transmission lines, which are R11 and R11, respectively. The vehicle in this illustration would be the congestion control node, A1-A4. Both lines are used to send information from C1 to the other vehicle, which may be A2 or A4.)(Page 9, paragraphs 117-120).

### **Conclusion**

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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**Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Farhan M. Syed whose telephone number is 571-272-7191. The examiner can normally be reached on 8:30AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 571-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

FMS

*Etienne P. Lehouc*  
*primary examiner*